DESCRIPTION OF THE ASSET - 7.5 MW TURBINE and BOILERS

QUANTITY - 2 NUMBERS

Turbine Parameters

MATERIAL LOCATION - KAGHAZNAGAR, TELANGANA.

Turbo Generators Technical data Turbo Generator 2&3 Principal Characteristics of Turbine

Reaction turbine with single extraction cum Condensing Turbine with Complete Oil System, Ejector system, Condensate system & Cooling Water System.

2 Pole, 6.6KV Alternator with Brush type Exciator and all necessary Syncronising system with AVR & NGR

Make	Metropolitan Vickers Electrical Export Ltd, UK		
Туре	Extraction cum Condensing Turbine		
Speed	3000 RPM		
No. of Stages	16		
Alternator Capacity	7.5MW		
Alternator Voltage	6.6KV		
Frequency	50HZ		
Power factor	0.8		
Commissioned	1954		
Design pressure	35 kg/cm ²		
Working pressure	32.5 kg/cm ²		
Working Temperature	405°C		
Extraction Pressure	2.0 Kg/Cm2		
Extraction Temparature	180 Deg		
Total Inlet Flow	56TPH		
Max. Extraction Flow	Збтрн		
Min. Condensing Flow	20ТРН		
Cooling Water Circulation Flow	1550 M3/Hr		
Oil System for Start Up	AOP for Lube Oil & Steam Drive Pump for Control Oil		
Oil System for running	Shaft mounted MOP for Lube oil & Control Oil		
Lub Oil Pressure	0.5 Кg		
Control Oil Pressure	3.5 Кg		
MOT Capacity	1000 Ltr		
Oil Grade	Servo Prime 57 Gearde		

Spring Loaded Speed Gauge with Hydraulic System

Speed Governing system

Make Type Speed Head Capacity Motor Capacity

Condenser :-Type Surface Area Qty of Cooling Water Capacity Tubes Material Tubes Size Tubes Qty Pulso Meter Engg. Co 46A X 46B 730 RPM 17.6 Mtr 1590 m3/Hr 160HP

Surface Condenser 6000 Sq.feet 1477 m3/Hr 30TPH Cupro Nickel 16.6 x 18 SWG X 3870mm Length 2080

CEP Pump:-Make Speed Head Capacity Motor Capacity

AOP Pump:-Make Speed Pressure Capacity Motor Capacity Metropolitan Vickers, UK 1450 24.35 Mtr 26.8 m3/Hr 20HP

> Aroto Engg. Co 1440 0.5Kg/Cm2 455 LPM 15KW

Boiler Technical data FBC boiler no 1&2 Principal Characteristics of Boiler

The single pass Top supported boiler with a Maximum continues rating of 75 TPH of steam is installed out doors.

From the outlet of the combustion chamber, the flue gases will pass succesively through the Super heater, Boiler Bank, Buffle Dust Collector, Cyclone Dust Collector, Economiser, Esp and ID fan to the Chimney.

Boller Parameters		
Make	Ignifluid Boiler India Ltd.	
Reg. no	AP/3063 & AP/3751	
Design pressure	44 kg/cm ²	
Working pressure	35 kg/cm ²	
Working Temperature	405°C	
Feed water Temp. at Eco inlet	105°C	
Capacity	75 TPH	
Commissioned	1994 & 1998	
Boiler Heating Surface Area		
1. Furnace	609.5	m²
2. Boiler bank	745	m²
3. Superheater	393	m²
4. Economiser	1744	m²
5.Steam drum	8.75	m²
6. Water Drum	5.33	m²
7. Chilling Tubes	8.4	m²
Total heating surface area	3514 m²	m²
Holding Capacities		
Voume of Economiser	13.1	m³
Total Volume of Steam Drum	8.1	m³
Drum	Q /	m ³
Headers, Furnace & Boiler Bank	0.4	
tubes	25.2	m³
Volume of Superheaters & Attmp	4.1	m³
Total Volume of Pressure Parts	54	m³
Volume of Normal Operating		
level	45.8	m³
(Attemp & Superheater circuits empty)		

Coal Bunker

Total Capacity	286	MT
Construction	Steel Plates Rienforced with sectional girders.	
Coal Feeder		
Make	Indiana	
Hourly Flow.	20	ТРН
Speed at Maximum flow	0.13	m/min
Coal handling Plant	75TPH	ТРН
	Pnematic Ash handling system	
Ash handling	with Individual ash Silos	
<u>ESP :</u>		
Gas Volume	38.2	m3
Inlet Dust Concentration	10	gm/Nm3
Outlet Dust Concentration	115	mg/Nm3
Inlet Temparature	150	Deg
		(Each
No. of Fields	2	Boiler)
Chimney:		
Туре	RCC	
Hieght	70	Mtr
OD	4000	mm
ID	3000	mm

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